

**AMENDMENTS TO THE CLAIMS:**

Please amend the claims as follows. Any other difference between the claims below and the previous state of the claims is unintentional and in the nature of a typographical error.

1. (Currently Amended) A method for supporting downlink JD (joint detection) in a TDD CDMA communication network system, the method comprising:

judging whether CAI (code allocation information) in a downlink timeslot will change in a next TTI (transmission time interval) , wherein the judging comprises at least one of:

judging that the CAI changes if at least one active UE leaves the downlink timeslot;

judging that the CAI changes if at least one UE joins the downlink timeslot;

judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

judging that the CAI change if at least one active UE performs a cell handover;

modifying the spreading code resource according to the changed CAI;

inserting changed CAI as a specific control information into a specified field in a traffic burst in the downlink timeslot corresponding to current TTI only if the CAI will change, the changed CAI comprising spreading code resources associated with each of a plurality of UEs that uses the downlink timeslot, the changed CAI comprises the CAI after the spreading code resource is modified; and

sending the traffic burst comprising the specific control information to each of the UEs in the downlink timeslot via a downlink channel, wherein the traffic burst sent to each of the plurality of

UEs comprises spreading code resources associated with all of the UEs that use the downlink timeslot.

2. (Original) The method of claim 1, further comprising:  
when establishing connection with a UE, the network system sends the initial CAI to the UE.

3-5. (Canceled)

6. (Previously Presented) The method in claim 1, wherein the specific control information allows each UE in the downlink timeslot to perform one of the two JD methods of ZF-BLE and MMSE-BLE.

7. (Currently Amended) A method for supporting downlink JD to be performed by a UE in a TDD CDMA communication network system, the method comprising:

receiving a traffic burst in a downlink timeslot transferred by the network system via downlink channel;

detecting whether the traffic burst comprises code allocation information (CAI) will change in a next TTI in the downlink timeslot, wherein the detecting comprises at least one of:

detecting that the CAI changes if at least one active UE leaves the downlink timeslot;

detecting that the CAI changes if at least one UE joins the downlink timeslot;

detecting that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

detecting that the CAI change if at least one active UE performs a cell handover;

modifying the spreading code resource according to the changed CAI;

extracting the CAI only if the traffic burst comprises the CAI, the CAI comprising spreading code resources associated with all of a plurality of other UEs that use the downlink timeslot, the extracted CAI comprises the CAI after the spreading code resource is modified; and

performing next-phase JD algorithm to decrease interference by using the CAI.

8. (Original) The method of claim 7, further comprising:

the UE receives the initial CAI from the network system when the UE establishes connection with the network system.

9. (Original) The method of claim 8, wherein the JD algorithm is one of ZF-BLE and MMSE-BLE.

10. (Currently Amended) A method for supporting downlink single-user JD in a TDD CDMA communication network system, the method comprising:

judging whether an ACN (active code number) in a downlink timeslot will change in a next TTI, wherein the judging comprises at least one of:

judging that the CAI changes if at least one active UE leaves the downlink timeslot;

judging that the CAI changes if at least one UE joins the downlink timeslot;

judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

judging that the CAI change if at least one active UE performs a cell handover;

modifying the spreading code resource according to the changed CAI;

inserting changed ACN as a specific control information into a specified field in a traffic burst in downlink timeslot corresponding to current TTI only if the ACN will change, the ACN comprising spreading code resources associated with a plurality of UEs that use the downlink timeslot, the changed CAI comprises the CAI after the spreading code resource is modified;

sending the traffic burst comprising the specific control information to each of the UEs in the downlink timeslot via downlink channel, wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that uses the downlink timeslot

11. (Previously Presented) The method of claim 10, further comprising:  
the network system sending an initial ACN to the UE when the network system establishes connection with the UE.

12. (Original) The method of claim 11, wherein the specific control information allows each UE in the downlink timeslot to perform an MMSE-BLE-SD-JD algorithm.

13. (Currently Amended) A method performed by a UE for supporting downlink single-user JD in a TDD CDMA communication network system, the method comprising:

receiving a traffic burst transferred by the network system via downlink channel in a downlink timeslot;

detecting whether the traffic burst comprises an active code number (ACN) in the next TTI in the downlink timeslot, the ACN comprising spreading code resources associated with all of a plurality of other UEs that use the downlink timeslot, wherein the detecting comprises at least one of:

detecting that the CAI changes if at least one active UE leaves the downlink timeslot;

detecting that the CAI changes if at least one UE joins the downlink timeslot;

detecting that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

detecting that the CAI change if at least one active UE performs a cell handover;

modifying the spreading code resource according to the changed CAI;

extracting the ACN only if the traffic burst comprises the ACN, the extracted CAI comprises the CAI after the spreading code resource is modified; and

performing the next-phase JD algorithm to decrease interference by using the ACN.

14. (Previously Presented) The method of claim 13, wherein prior to receiving a traffic burst transferred by the network system the UE receives the initial ACN from the network system when the UE establishes connection with the network system.

15. (Original) The method of claim 14, wherein the JD method is an MMSE-BLE-SD method.



16. (Currently Amended) A network system for supporting downlink JD, comprising:  
a judging unit configured to judge whether code allocation information (CAI) in a downlink timeslot will change in a next TTI, wherein the judging comprises at least one of:

judging that the CAI changes if at least one active UE leaves the downlink timeslot;

judging that the CAI changes if at least one UE joins the downlink timeslot;

judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

judging that the CAI change if at least one active UE performs a cell handover;

a resource unit configured to modify the spreading code resource according to the changed CAI;

an inserting unit configured to insert changed CAI as a specific control information into a specified filed in a traffic burst in the downlink timeslot corresponding to current TTI only when the CAI changes, the changed CAI comprising spreading code resources associated with each of a plurality of UEs that uses the downlink timeslot, the changed CAI comprises the CAI after the spreading code resource is modified;

a sending unit configured to send the traffic burst comprising the specific control information to each of the UEs in the downlink timeslot via a downlink channel, wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that uses the downlink timeslot.

17. (Original) The network system of claim 16, wherein the sending unit sends the initial CAI to the UE when establishing connection with the UE.

18. (Canceled)

19. (Currently Amended) A UE for supporting downlink JD, comprising:
- a receiving unit configured to receive a traffic burst transferred by a network system via a downlink channel in a downlink timeslot;
  - a detecting unit configured to detect whether the traffic burst comprises code allocation information (CAI) in a next TTI in the downlink timeslot, the CAI comprising spreading code resources associated with all of a plurality of other UEs that use the downlink timeslot, wherein the detecting comprises at least one of:
    - detecting that the CAI changes if at least one active UE leaves the downlink timeslot;
    - detecting that the CAI changes if at least one UE joins the downlink timeslot;
    - detecting that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and
    - detecting that the CAI change if at least one active UE performs a cell handover;
  - a resource unit configured to modify the spreading code resource according to the changed CAI;
  - an extracting unit configured to extract the CAI only when the traffic burst comprises the CAI, the extracted CAI comprising the CAI after the spreading code resource is modified;
  - a performing unit configured to perform next-phase JD algorithm to decrease interference by using the CAI.

20. (Original) The user equipment of claim 19, wherein the receiving unit receives the initial CAI from the network system when establishing connection with the network.

21. (Currently Amended) A network system for supporting downlink single-user JD, comprising:

a judging unit configured to judge whether an active code number (ACN) in a downlink timeslot will change in a next TTI, wherein the judging comprises at least one of:

judging that the CAI changes if at least one active UE leaves the downlink timeslot;

judging that the CAI changes if at least one UE joins the downlink timeslot;

judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

judging that the CAI change if at least one active UE performs a cell handover;

a resource unit configured to modify the spreading code resource according to the changed CAI;

a specified field in a traffic burst in the downlink timeslot corresponding to current TTI only when the ACN changes, the ACN comprising spreading code resources associated with a plurality of UEs that use the downlink timeslot, the changed CAI comprises the CAI after the spreading code resource is modified; and

a sending unit configured to send the traffic burst comprising the specific control information to each of the UEs in the downlink timeslot via downlink channel, wherein the traffic burst sent to each of the plurality of UEs comprises spreading code resources associated with all of the UEs that uses the downlink timeslot.

22. (Original) The network system of claim 21, wherein the sending unit sends the initial ACN to the UE when establishing connection with the UE.

23. (Currently Amended) A UE for supporting downlink single-user JD, comprising:  
a receiving unit configured to receive a traffic burst transferred by a network system via a downlink channel in a downlink timeslot;

a detecting unit configured to detect whether the traffic burst comprises an active code number (ACN) in the downlink timeslot in a next TTI, wherein the detecting comprises at least one of:

detecting that the CAI changes if at least one active UE leaves the downlink timeslot;

detecting that the CAI changes if at least one UE joins the downlink timeslot;

detecting that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; and

detecting that the CAI change if at least one active UE performs a cell handover;

a resource unit configured to modify the spreading code resource according to the changed CAI;

an extracting unit configured to extract the ACN only when the traffic burst contains the ACN, the ACN comprising spreading code resources associated with all of a plurality of other UEs that use the downlink timeslot, the extracted CAI comprising the CAI after the spreading code resource is modified; and

a performing unit configured to perform next-phase single-user JD algorithm to decrease interference by using the ACN.

24. (Original) The UE of claim 23, wherein the receiving unit receives the initial ACN from the network system.